REMARKS

Claims 1, 4-13 are all the claims pending in the Application. Claims 10-13 are new and support for these claims can be found at least in FIGS. 2, 3, 5, 6, 10-12 and paragraphs 22, 85-87, 89, 97-98 of the Specification.

Telephone Interview - October 22, 2009

Applicants thank the Examiner for the interview held on October 21, 2009, between Tom Andersen and Examiner Craig Price. In the interview, the rejections under 35 U.S.C. §§ 101, 112, and 103 were discussed. Applicants submitted that the amendment to claims 6-7, listed above, should overcome the rejections under 35 U.S.C. §§ 101 and 112. The Examiner indicated that such may be the case, but he would confirm after further consideration.

Applicants also argued that Prokul (U.S. 2,039,343) does not disclose two distinct air supply passages as recited in claim 1. The Examiner argued that Prokul does disclose two air supply passages, but that they may not be distinct along the entire length thereof within the valve. Claim language along the lines of new claim 11 above was discussed and the Examiner indicated that such language appears to overcome Prokul, but that further consideration and search would be necessary.

Applicants also argued that Talliandier (U.S. 6,354,348) does not teach a separate filling adapter (the structure of which is specifically recited in claim 4) in addition to a valve (the structure of which is specifically recited in claim 1). The Examiner argued that Prokul teaches the valve (claim 1) and Talliandier teaches the filling adapter (claim 4) and that it would have

been obvious to combine Talliandier's alleged filling adapter with Prokul's valve. Agreement was not reached on this issue.

Applicant's further argued that the means plus function terminology in the claims should be given patentable weight, in contrast to the Examiner's statement in the Final Rejection that "this limitation "for restraining detachment" is considered as an intended use statement bearing no patentable weight." Final Office Action, July 22, 2009, page 4. Tentative agreement on this point was reached, but Applicants agreed to submit additional explanation with reference to the MPEP as to the requirement that means plus function terminology should be given patentable weight.

The Examiner stated that even if the functional language in the means plus function phrase is given patentable weight, Prokul discloses this limitation; *i.e.*, the Examiner maintained that Prokul's bridge piece 38 (FIG. 3) restrains detachment of the nonreturn valve 28 for the outer gas chamber 18. Agreement was not specifically reached on this point because the language in claim 1 only pertains to the nonreturn valve for the *outer gas chamber* as opposed to the nonreturn valves for both the inner and outer gas chambers. Applicants stated that additional functional language to distinguish Prokul will be considered, and hence new dependent claim 12 is hereby added.

Lastly, new claim language was discussed directed to the engaging portion allowing the filling adapter to be mounted at the charging opening "in only a fixed direction." Applicants proposed to add additional language to the claims that recites, "only in a fixed direction *so as to prevent the pressures in the air supply passages from being accidentally set inversely.*" Support

for such language is found in paragraph [0022] of the Specification. The Examiner stated that such an amendment appears to overcome the prior interpretation of Prokul, but that further consideration and search would be necessary.

Claim Rejections under 35 U.S.C. §§ 101 and 112

Claims 6-8 stand rejected under 35 U.S.C. §§ 101 and 112 because the claims are allegedly directed to neither a "process" nor a "machine" but rather embrace or overlap two different statutory classes, and are therefore allegedly indefinite. Claims 6-7 have been amended to clearly recite that the claimed method "uses the valve for a safety tire according to claim 1." Therefore, while these claims use the structure, *i.e.* valve, of claim 1, they are clearly method claims that positively recite method steps. Accordingly, Applicants respectfully request the Examiner to withdraw the rejection under 35 U.S.C. § 101 and 112.

Claim Rejections under 35 U.S.C. § 103

Claims 1, 4 and 9 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Prokul (U.S. 2,039,343) in view of Taillandier (U.S. 6,354,348). Applicants respectfully traverse.

Air-supply Passages

Claim 1 recites in part:

> **an air-supply passage** for an inner gas chamber, which causes the charging opening and the inner gas chamber to communicate with each other;
> **an air-supply passage** for an outer gas chamber, which causes the charging opening and the outer gas chamber to communicate with each other.

The Examiner asserts that Prokul discloses these two air supply passages.

Prokul is directed to a two seal inner tube having what appears to be a dual valve structure. Specifically, Prokul shows an inner tube forming two chambers 17, 18 with separate air flow passages 27 connecting to the valve structure 22. *See* Figs. 1, 2, and 3. The valve structure 22 is comprised of a body 23 with a threaded end to receive a stem 24, which has an internal valve 31 through which all air entering the tire flows. *See* Fig. 3, and Col. 4, lines 9-27. Further, at the lower end of the body 23, the airflow passage branches to form separate air flow passages 27, each having separate valves 28, which connect to the separate chambers 17, 18 of the inner tube. *See* Fig. 3, Col. 4, lines 15-20. In other words, Prokul does not teach "an air-supply passage for an inner gas chamber, which causes the charging opening and the inner gas chamber to communicate with each other" and "an air-supply passage for an outer gas chamber, which causes the charging opening and the outer gas chamber to communicate with each other". Instead, Prokul teaches a valve structure where *a single air passage splits into separate airflow passages*.

Applicants maintain that Prokul does not teach two air supply passages, each of which causes the charging opening and the inner or outer gas chamber to communicate with each other. In other words, the top portion of the alleged air passages in Prokul is really one and the same, yet the claims specifically recite two air-supply passages. While the bottom portion of Prokul's valve may show two air-supply passages, the top portion shows only one air-supply passage. Thus, claim 1 should be patentable over Prokul.

Nevertheless, to make this language even more clear, new claims 10-11 have been added to further clarify this structure. Prokul does not disclose independent and separate air-supply passages (claim 10), nor does Prokul disclose that these two air passages are directly connected to the charging opening, which in Prokul is just below the end cap 32. Prokul only shows one air-supply passage that directly connects to the charging opening, which air supply passage later splits into two near the inner and outer chambers. *See* Prokul, FIG. 3.

Accordingly, new claims 10-11 should also be indicated to be allowable.

Filling Adapter

Claim 1 further recites

> **an engaging portion that allows a filling adapter** with a coupler to be mounted at the charging opening in only a fixed direction, which filling adapter includes a first passage that can supply gas to the inner gas chamber by communicating with said air-supply passage for an inner gas chamber, and includes a second passage that can supply gas to the outer gas chamber by communicating with said air-supply passage for an outer gas chamber so as to make a pressure difference between the outer gas chamber and the inner gas chamber, **the engaging portion allowing the filling adapter to be mounted** so that said air-supply passage for an inner gas chamber communicates with the first passage and said air-supply passage for an outer gas chamber communicates with the second passage…

Thus, claim 1 recites that the engaging portion of the valve claimed therein allows a filling adapter with specific structure to be mounted thereon.

Additionally, claim 4, which has been amended to clarify that the filling adapter is adapted for use with the valve of claim 1, recites in part:

> **A filling adapter** with a coupler, **which is adapted to engage with a valve for a safety tire according to claim 1**…said filling adapter comprising:
> a main body portion engaging with said valve for a safety tire;

a second coupling provided in said main body portion and including a valve core connectable to a pressure source to allow gas from the pressure source to be supplied to the tire;...

an air chamber provided in said main body portion and connected to said second coupling;

a first passage provided in said main body portion...;

a second passage provided in said main body portion...;

differential pressure setting means provided in said second passage and distributing gas from the gas supply source to said first passage and said second passage so as to generate a pressure difference therebetween...

In the Final Office Action, the Examiner acknowledges that Prokul is silent regarding a filling adapter and/or an engaging portion allowing the filling adapter to be mounted on the valve as claimed, but asserts that Talliandier's Fig. 4 shows an adapter 30 which "clearly engages a tire valve."

Taillandier is directed to a valve for a tire/rim assembly equipped with a pneumatic support membrane designed to be deployed when the pressure difference between the cavity of the membrane and the tire exceeds a given threshold. This valve comprises a valve base 61 fixed to the inner part of the membrane M and spaced part from a part 60. *See* Fig. 4, Col. 4, lines 61-64. The valve base 61 has multiple passages 62, 63 connecting to the membrane and cavities respectively. *See* Fig. 4, Col. 4, line 65-Col. 5, line 3. Further, Taillandier describes that the valve base 61 is fixed to a valve body 30 by a connector 64. *See* Col. 5, lines 10-11.

In rejecting claim 1, the Examiner asserts that Talliandier's valve body 30 corresponds to the claimed filling adapter. However, the valve body 30 is not a filling adapter, but is the actual valve component of Taillandier. Specifically, the valve body has two passages 31 and 32 connected together by connecting passage 35, which has a valve 45 which controls air flow between the two passages. *See* Col. 3, lines 61-66. Further, a non-return valve 36 allows air to

penetrate into passage 31 to inflate the support membrane M when a pressurized inflation source is attached to passage 34, which connects to passages 31 and 32. *See* Fig. 3, and Col. 4, lines 6-10. Further, when the pressure in the first passage 31 reaches a threshold pressure greater than chamber 46, the valve 45 opens allowing air to also penetrate the second passage 32 through the connecting passage 35, and inflate the cavity 15. *See* Col. 4, lines 11-15.

As described, the valve body 30 is the main component part of the valve 3 and is not a filling adapter. *See* Col. 3, lines 44-45. Instead, the valve body 30 has an end 37 to which a pressurized gas source is connected, and the valve body 30 directs air flow through a series of one-way valves 36 and 45 an into the inner membrane M and the cavity 27. The valve base 60 has no way to prevent backflow of air out of the membrane M and cavity 27, but instead relies on being sealingly connected to the valve body 30, which has the one-way valves 36 and 45 prevent the outflow of air and thus is not actually a valve by itself. Thus, if the valve body 30 is removed, the air will flow out of the tire and tire pressure will not be maintained. The valve body 30 is a necessary component of the valve itself and not a valve adapter as asserted by the Examiner.

Further, Taillandier clearly states that the passage 34 opens to the open air and covered by the plug 37, similar to the structure described in Prokul. *See* Col. 3, lines 52-53. Taillandier does not teach or even suggest a separate filling adapter which attaches to a tire valve.

The Examiner has cited two separate references, which teach alternative valve structures and asserts that it would be obvious to use the valve of Prokul as a valve, and use the **valve of** Taillandier as a filling adapter.

In the interview on October 21, 2009, the Examiner stated that it would have been obvious to place Talliandier's valve body 30 on top of Prokul's valve 22. However, Applicants submit that this is improper hindsight because there is no motivation for a person of ordinary skill in the art to use the valve structure taught by Taillandier as a filling adapter when it is designed to be used as a self-contained tire valve. Thus, Applicant's submit that Taillandier cannot cure the deficiencies of Prokul because Taillandier teaches an alternative valve structure, similar to Prokul, and does not teach a filling adapter, which is allowed to attach to an engaging portion of a valve (claim 1), or that is adapted to engage (claim 4) with a valve according to claim 1.

For at least these reasons, Applicants submit that claims 1 and 4, and any claims dependent thereon, are patentable over this combination of references for at least these reasons.

Detachment Restraining Means

In the Final Office Action the Examiner asserts that the recitation regarding "detachment restraining means" is merely intended use and does not positively recite the element being used to prevent detachment of the valve member.

Claim 1 recites in part:

> detachment-restraining means **for restraining detachment of said nonreturn valve member for an outer gas chamber is provided in said air-supply passage for an outer gas chamber at a position nearer to the charging opening than said nonreturn valve member for an outer gas chamber.**

With respect to the Examiner's assertion that most of the recitation is merely intended use language, Applicants submit that the Examiner is misconstruing this means plus function terminology.

MPEP 2182 states that "the application of a prior art reference to a means or step plus function limitation requires that the prior art element perform the identical function specified in the claim." Further, MPEP 2183, which describes the requirements for a prima facie case of equivalence, states that the very first requirement is that " the prior art element performs the identical function specified in the claim in substantially the same way, and produces substantially the same results as the corresponding element disclosed in the specification." *Kemco Sales, Inc. v. Control Papers Co.*, 208 F.3d 1352, 54 USPQ2d 1308 (Fed. Cir. 2000). As the language of claim 1 clearly recites "detachment restraining means for...", the Examiner must show that the prior art teaches the specific functions set forth in the claim, in exactly the same way, and producing the same results as the corresponding elements disclosed in the specification.

With regard to the specific means plus function language in claim 1, *viz.* detachment-restraining means **for restraining detachment of said nonreturn valve member for an outer gas chamber,** the Examiner asserts that element 38 of Prokul serves as detachment restraining means. However, element 38 is merely described as a bridge piece which is connected to the tops of the stem plungers 26 to hold both of the valve stem plungers 26 in their uppermost position. *See* Col. 4, lines 28-42. Prokul does not teach or even suggest that the bridge piece prevents detachment of the non-return valves. The bridge piece may be described as holding the valve stems 26 in an upright position, but this teaching does not necessitate that the bridge piece

restrains detachment of the non-return valves. Prokul does not provide any teaching that this element prevents the detachment of the non-return valve member and thus does not teach or even fairly suggest a detachment-restraining means as claimed. Therefore, Applicants submit that claim 1, and any claim dependent thereon, is patentable for this additional reason.

Nevertheless, to further distinguish Prokul in this regard, new claim 12 recites that the detachment restraining means only restrains detachment of said nonreturn valve member for an outer gas chamber. Thus, even if Prokul's bridge piece 38 were interpreted to restrain detachment of the nonreturn valve member for the outer gas chamber, it does not do so for only this non return valve, but must be interpreted to also restrain detachment for the nonreturn valve member for the inner gas chamber. Accordingly, new claim 12 should also be indicated to be allowable.

Claims 5-8

Claims 5-8 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Prokul (U.S. 2,039,343) in view of Taillandier (U.S. 6,354,348) as applied to claim 1 above, and further in view of Hawkes (U.S. 3,422,836). Applicants respectfully traverse.

Claims 5-8 depend from claim 1, which has been shown above to be patentable over the Prokul and Taillandier references. Hawkes does not cure the deficiencies of the Prokul and Taillandier references. Therefore, Applicants respectfully submit that these claims are patentable at least by virtue of their dependency and respectfully request that the rejection of these claims be withdrawn.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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